

Remarks/Arguments:

Claims 1-4, 6-7, 9-17, 19-20, 22-30, 32-33, 35-43, 45-46, and 48-53 remain for consideration in this application with claims 1, 14, 27, 40, and 54 being in independent format. These claims as presently presented, together with the remarks hereunder traverse the rejections of the office action dated June 2, 2003.

The specification has been amended to include the paragraph required by 37 CFR § 1.84(b). Accordingly, the rejection under numbered paragraph 1 of the application has been overcome.

Claims 1-53, 57, and 58 were rejected under 35 U.S.C. § 112, second paragraph, for being indefinite. Specifically, the phrases “baseline level,” “altered stomatal closure characteristics,” “and the relationship between the stomatal closure characteristics and the altered level of PLD enzyme expression, as compared with said baseline level,” “the method of claim 1, further comprising the step of introducing,” “a promoter and PLD coding sequences,” “sequence similarity to SEQ ID NO.: 1 (or 2),” “at least about,” “35S promoter,” “testing water consumption levels of said plant in order to determine if said genome alteration will permit plant growth,” “baseline,” “altering,” and the last step of claim 40 for being inconsistent with the preamble were rejected. “Baseline level” has been replaced with “first level.”

“Altered stomatal closure characteristics,” is defined in the application at page 14, lines 18-21, together with the commonly accepted definition of altering as shown by Exhibit A which is from Merriam-Webster’s Collegiate Dictionary. Simply put, “altered stomatal closure characteristics” refers to a change in traits, qualities, or properties of stomata as they open to increase transpiration and close to decrease transpiration.

“And the relationship between the stomatal closure characteristics and the altered level of PLD enzyme expression, as compared with said baseline level” has been removed from claim 1.

“The method of claim 1, further comprising the step of introducing” has been amended to recite “said recombinantly altering step including the step of introducing.” Such an amendment clarifies which step is being referred to.

“A promoter and PLD coding sequences” has been amended to “sequence.”

“Sequence similarity to SEQ ID NO.: 1 (or 2)” has been amended to sequence identity or the claims have been canceled.

“At least about” has been removed from the claims.

“35S promoter” is defined by reciting that the promoter is from the cauliflower mosaic virus.

“Testing water consumption levels of said plant in order to determine if said genome alteration will permit plant growth” has not been amended. Applicants assert that such a limitation indicates that water consumption levels can be tested in a lab prior to the actual planting of transformed plants in a field. In other words, this claim illustrates that the varieties of transformed plants can be tested ahead of time.

“Baseline” has been amended to “first.”

“Altering” in claim 40 has not been amended and applicants refer to the definition provided in Exhibit A. Such a definition is commonly understood and should not render the claim indefinite.

Finally, it was alleged that the last step of claim 40 was inconsistent with the preamble. This claim has been amended by including the phrase “and thereby altering water consumption.”

In view of the above-referenced amendments and arguments, applicants assert that all rejections under 35 U.S.C. § 112, second paragraph have been overcome.

Claims 1-26, 28-34 and 40-59 were rejected under 35 U.S.C. § 112, first paragraph for failing to comply with the written description requirement. Specifically, the action alleged that the reference to PLD was not supported. In response, applicants have amended all references to PLD to PLD α . Applicants assert that such an amendment overcomes this rejection.

Claims 1-59 were rejected under 35 U.S.C. § 112, first paragraph for being non-enabling. Again, the breadth of PLD was specifically noted in the action. As noted above, all references to PLD have been amended to "PLD- α " and such an amendment overcomes this portion of the rejection.

With respect to the portion of this rejection based on the lack of specification guidance as to what other transgenes may be integrated into plant genomes, all claims now require that it is the expression of PLD- α which must be altered via the transformation. The specification teaches several different alterations which all result in differential expression of PLD- α . Furthermore, the specification demonstrates that PLD- α is responsible for transpiration rates due to its effect on stomatal closure characteristics. Accordingly, applicants assert that this portion of the rejection has been overcome.

With respect to the portion of this rejection based on references to sequence similarity or sequence identity, all such references have been deleted from the claims.

With respect to the rejection of claims 14, 15, 17, 18, 27, 28, 30, 31, 40, 41, 43, and 44 based on the alleged lack of added benefit in terms of plants that have a decreased ability to survive

drought conditions, applicants note that transformed plants with increased transpiration rates would be better suited for growth conditions which are too wet for an untransformed plant. As noted at page 10, lines 10-13, these transformed plants would be able to grow in environments which were previously considered as having too much moisture. Similarly, increased transpiration rates may also result in more efficient bioremediation as noted in the application at page 10, lines 30-31 and in the "Field of the Invention." Accordingly, applicants assert that this portion of the rejection has been overcome.

Claim 54 was rejected under 35 U.S.C. § 102(b) as being anticipated by Fan et al. (Fan). This claim has been canceled.

Claims 54-59 were rejected under 35 U.S.C. § 102(b) as being anticipated by Wang et al. (Wang). These claims have been canceled.

Finally, claims 1-59 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in combination with Jacob et al. (Jacob) and Thimann et al. (Thimann). To begin, Applicants assert that Wang merely demonstrates that plants can be transformed with the gene for PLD and that expression of this gene can be manipulated. There is no indication or suggestion of how this information could be used or how transformed plants could be used in a useful manner. The Action also admits that there is no teaching in Wang of the characteristics of stomatal closure in transgenic plants. Jacob does not link the increased activity with the PLD gene but merely suggests that the enzyme may have a role in stomatal characteristics. Furthermore, Jacob only tests one product of PLD activity and its relationship to stomatal characteristics. Thus, Jacob discusses a potential use of the enzyme in that the product of the enzyme may be somewhat related with the regulation of the

guard cells. However, there is no teaching or suggestion in Jacob that the gene expressing PLD caused this effect or that a transgenic plant expressing more or less PLD would have any effect on stomatal characteristics. Finally, Thimann also fails to teach or suggest the effects of introducing the gene expressing PLD into a transgenic plant as it is concerned with using a spironometer to measure water loss.

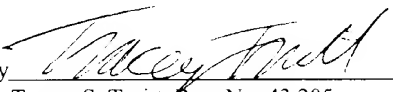
Accordingly, there is no teaching or suggestion of recombinantly altering the genome to change PLD expression and then testing the stomatal closure characteristics or water consumption levels of the transformed plant as required by independent claims 1, 14, and 40. The only such teaching comes from the present application and Applicants assert that it is improper to use the present application as a blueprint to piece together the prior art. Furthermore, obvious to try is not the proper standard to use to assess the suggestions from the prior art.

Any additional fee which is due in connection with this amendment should be applied against our Deposit Account No. 19-0522.

A Notice of Allowance appears to be in order for this application and the issuance of such is courteously solicited from the Examiner.

Respectfully submitted,

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